AVIATION

The Oldest American Aeronautical Magazine

AUGUST 18, 1924 Issued Weekly PRICE 10 CENTS

Air Service Photographic Plane Mapping the Salton Sea, Southern California

VOLUME XVII

NUMBER 7

SPECIAL FEATURES

THE AIR MAIL AND THE BANKER

FIRST HELICOPTER TO FLY A CIRCULAR KILOMETER

PROGRESS OF THE ROUND THE WORLD FLIGHTS

GARDNER PUBLISHING CO., INC.
HIGHLAND, N. Y.
225 FOURTH AVENUE, NEW YORK

Entered as Second-Class Matter, Nov. 22, 1920, at the Post Office at Highland, N. Y. under Act of March 3, 1879.

AUGUST 18, 1924

AVIATION

VOL. XVII NO. 7

Published every Monday

CONTENTS

GARDNER PUBLISHING COMPANY, Inc., *Publishers*

GENERAL AND EDITORIAL ROOMS: 225 FOURTH AVENUE, NEW YORK

Publication office
HIGHLAND, N. Y.

Subscription price: Four dollars per year. Single copies ten cents. Canada, five dollars. Foreign, six dollars a year. Copyright 1924, by the Gardner Publishing Company.

Issued every Monday. Forms close ten days previously. Entered as second-class matter Nov. 22, 1920, at the Post Office at Highland, N. Y., under act of March 3, 1879.

L. D. Gardner, President
L. D. Webster, Treasurer
George Newbold, Business Manager

AVIATION

Ladislas d'Orcy, Editor
Virginius E. Clark
Edward P. Warner
Ralph H. Upson
Edmund T. Allen, Contributing Editors

Vol. XVII AUGUST 18, 1924 No. 7

Civil Transport Planes and Military Bombers

THE pertinent and perennial question of whether a plane which is suitable for the transportation of passengers can be converted into a military bomber was the subject of a recent speech made by Mr. Laurent Eynac, the French Under Secretary of Aeronautics, before the Aero Club of France. The salient passages of the speech are as follows.

Commercial aviation and military aviation, since the separation of 1919, have been following along different lines of development. Actually one can only make a poor bomber out of a civil transport plane and vice versa. In military aviation one must climb very high and fast and the flying speed must also be great. The plane must have a ceiling of eight or nine thousand meters, the cruising speed must be at least 250 kilometers per hour. Until proof to the contrary, high fuel consumption and power are of no importance. The longer or shorter life of the motor is unimportant. It is a race for the mastery of the air.

In civil aviation there is a constant search for economy, each year the ceiling becomes lower, it will probably be fixed at 3,500 meters which permits the planes to pass over the mountain passes of Europe. Efforts are also made to get the maximum power out of the fuel used, and finally, the commercial ship is satisfied with cruising speeds of 180 kilometers per hour.

"The French commercial air fleet at this time has about more than 200 ships, some working for the mail, others carrying passengers and freight. It also has nearly two hundred proved, hardy and experienced pilots.

"To make these machines and pilots return to the military ranks would be an unpardonable mistake. If war should break out in the four corners of Europe and in Africa, would it then be necessary for us to abandon the position which we gained by our communications with the North of Africa and with Central Europe?

"Decidedly no. The communications between France and Northern Africa and between France, Czechoslovakia, Poland and Roumania would go on as at present. They would be of the greatest use to us and the small benefit which we could derive from the use of commercial planes transformed into semi-military planes would not make up for the great loss which we would inevitably suffer from having suddenly discontinued our commercial air routes to Northern Africa and Central Europe."

From Calcutta to Paris

THE distance from Paris to Calcutta is some 6,000 miles along the line which was followed this year by the Americans, the French and the Argentine fliers, while the route of the British was somewhat longer. Although there was in no way a race between the two cities, yet the Frenchman was trying to establish a new record to Japan, and the Americans and Argentines were trying to make up for lost time so they were all doing their best to make speed. A study of the time taken by the various participants is therefore of much interest. The fastest time was twelve days, made by Captain d'Oisy in a Bréguet plane. Major Zanni, the Argentine, took thirteen days in his Fokker. The Americans in the Douglas planes took fourteen days. The Britishers in their Vickers amphibian were considerably delayed by motor trouble and took fifty-two days.

The Frenchman and the Argentine started out untired by previous days of hard flying, their machines were new and in perfect condition and both of them had a cruising speed of well over 100 mi./hr. with plenty of reserve power. The Americans had already flown almost half way around the world, their equipment and themselves had stood the strain of the change from Arctic to Tropic conditions, they were flying in formation, which gave three times the opportunity for delay and trouble. Furthermore, they were going against the prevailing winds in machines that carried heavy loads and cruised at only 75 mi./hr. The motors in all the planes were changed at Karachi, the work being done mostly by the Americans themselves and using up three days. The desire of the Turks to inspect the machines lost the fliers another day. In view of all this the performance of the men who composed the American squadron is extraordinary almost beyond belief. Incidentally, the Americans made the best time from Tokyo to Paris, but here a comparison is hardly fair, as the Frenchman was using inferior equipment after his accident in Shanghai.

Lack of Ideas

SCATTERED from Maine to California and from Florida to Oregon are the Old Time Aviators, men who have been in the commercial flying game for years, and know there is nothing in it, and who none the less cannot break away from it. Their roseate dream of the quick growth of aviation has turned to the dull gray of the far distance. Propose to them a new idea and they will say: "Oh, I tried that in 1918, it won't work." When pressed for new ideas, they admit that they used to have them but they are not bothered by them any more. They have tried all paths and all paths have faded out in the confusion of failure.

It is peculiar to speak of an aviator who has no new scheme which will bring about the immediate ees of commercial aviation, but the truth is that all the old timers who had ideas have either been eliminated or have modified their enthusiasm for ideas. The elimination of hair brained schemers and hopeless optimists is in a way healthy, but there is grave danger that many will not realize that greater knowledge, new equipment and changed conditions will sometime make ideas that have been impractical in the past become possible in the future. Commercial aviation is in a rut; it will take good judgement and intuitive to steer it out.

The Air Mail and the Banker*

The Service which the Air Mail Can Render to the Financial Interests

For me to attempt to talk to a group of men in the banking business is, I fear, a little bit of an incongruity; my knowledge of banking being limited to a few more or less successful attempts to borrow money and occasional notices of overdrafts.

I think, however, that I do know enough, generally speaking, of the profession in which you gentlemen are engaged to state with definite certainty that the Post Office Department is now able, through the Air Mail Service, to offer you something which will be of very practical benefit. You all know more or less of airplanes, you know that they fly fast and probably some of you believe that, being known during the war mostly as weapons flown by daring young men, they have nothing to offer to finance, commerce and industry in the way of everyday business service. It is this belief, if it exists at all—which the Post Office Department is displacing through demonstration and performance. In other words, high speed navigation of the air is neither primarily destructive to property nor dangerous to life, but actually a means to greater human efficiency and dominion.

Brief History of the Air Mail

As far back as May, 1918, the Post Office Department became interested in transporting the mails by air, but it was not until the Harding-Coolidge administrations that a deliberate effort was made to develop the Air Mail to the double end of substantially quickening communications and of firmly establishing American aviation, of whose brilliant experimental performances you have heard so much, upon a practical, commercial basis, thereby serving the business public and conserving to the nation as a whole, a key military industry.

It has been my privilege to assist in this development. Last August we placed in trial operation the first night airway in the world. Our transcontinental line is 2680 mi long. Being literally pioneers in a new art, we naturally chose that part which offered us the least obstacles to flying by night—885 mi between Chicago and Cheyenne. Our trials were so successful that Congress authorized us to proceed with a permanent seven-day-a-week, day and night service between the Atlantic and Pacific Coasts. Westbound we cover the 2680 mi in 34 hr 45 min, eastbound in 32 hr 5 min elapsed time. The fastest railroad time ranges, according to connections, from 96 to 120 hr.

Our airplanes have flown over 2,000,000 mi., much of it by night without a fatal accident. In the same period the ratio of mail destroyed to mail safely transported has been 120 lb to 360,000 lb. A pound averages forty letters, so you see that out of 14,400,000 letters carried, but 4,800 were lost. This is a record proportionately far more reliable and secure than any other means of transportation, even though vastly larger quantities are involved.

97 Per Cent Efficiency

It will interest you to know that, in the last year, our operating efficiency has been 97 per cent. That is, only 3 per cent of air trips scheduled were uncompleted or defaulted. We have operated in all sorts of weather, and while we have to contend with the elements to a greater degree than surface transportation, we are at the same time free from some of the troubles these other systems experience. Our right of way, for instance, is mobile. It can never be washed out. And if storms appear before us, forewarned by radio, we surmount or circumvent them. Our lighting system consists of 500,000,000 candle power beacons every 200 mi., 5,000,000 candle power beacons every 25 mi. and 5,000 candle power lights every 3 mi. Landing fields on the night stretch are only 3 mi. apart.

When the first transcontinental mail was established—about the period of the Mexican war—stagecoach, canal and pony rider were employed, and the journey required months. Had the Post Office Department been able then, by some leap of science, to introduce aircraft, the bankers, manufacturers and merchants of that day would have felt no need for the service. Population had not expanded. Great cities 500 to 1000 mi. or more apart were unbuilt. In brief, business had not grown nor had transportation itself developed, to such a degree as could appreciate and utilize speed.

The Department is more conscious of the modern demand for speed than you may imagine. The telegraph and the radio have educated the public to demand the fastest possible communication. The trend of many lines of business has been toward operating through scattered branches from the central executive office. The expansion of advertising has transferred the sales market from a local to a national field. And banking, anticipating these changes, has passed into that period which makes it imperative, for sheer reasons of saving money, to save time in every conceivable way. Thus you have telegraphic balances, some of you have courier service, and all of you, particularly in your transactions between the larger cities, have sought out and utilized, the fastest railroad trains.

I welcomed the invitation of the Illinois Bankers' Association to appear here today in order to urge you, as bankers, to investigate the possibilities of the Air Mail in its application to your particular business. If it is true, as I am told by men in your profession, that time is the genius of banking, that checks, negotiable paper and money in transit are, for the time of their transit, lost to the use of the people, then most certainly this new service, which will save two or three days on Coast mail, and varying lengths of time in other connections, will undoubtedly appeal to you gentlemen as something which will be of practical help.

What the Banks Could Save

I think it would be interesting at this point to refer to a survey of the subject which was made recently by the Aeronautical Chamber of Commerce, and copies of which I have just received (see appendix tables). The Chamber enlisted the assistance of other organization members of the Chamber of Commerce of the United States. The Chicago Association of Commerce reported that, upon figures provided by the Federal Reserve Bank of Chicago, 50 per cent reductions in time by airplane which are quite feasible, would reduce the daily float $10,289,000 and save approximately $504,450 annually in interest charges alone. The Merchants Association of New York City reported a daily float reduction of $16,191,780, and annual interest savings through air mail, of $809,589. Similar reports were received from many other points, including the Federal Reserve Cities, but the two instances cited are sufficient to indicate what may reasonably be expected from the Air Mail when it reaches more of the principal centers of finance and industry.

The Air Mail now operates over a generally straight line from New York to San Francisco, touching Cleveland, Chicago, Omaha, Cheyenne, Salt Lake City and Reno. The Air Mail Schedule at these points calls for stops of 15 or 20 min. These stops were designed to make possible interchange of mail with the Railway Mail Service. Our Traffic Department is now engaged in further coordinating the two services so that, with certain adjustments in preparation, it will be possible to assure a closely knit combined service in the belt 500 to 1000 mi north and south of the line of flight, and including such important cities as Boston, Philadelphia, Baltimore, Washington, Pittsburgh, Buffalo, Cincinnati, Indianapolis, Louisville, Detroit, Milwaukee, Minneapolis, St. Paul, St. Louis, Kansas City, Denver, Los Angeles, Portland and Seattle.

Wherever a letter can travel for 300 mi or more by air on its journey, its ultimate delivery should be proportionately quickened. It is quite feasible, even now, to reach Denver between business days. Air time from Chicago to New York is 8 to 10 hr. as against 20 hr. by train. Between Chicago and Salt Lake City letters have been flown in 20 hr., from the desk of the sender to the desk of the recipient, as contrasted with three days by train. To the Pacific Coast from Chicago the Air Mail can save you two days.

Adjusting one of the 250,000 c/p searchlights with which the night flying air mail planes are equipped

The crux of the whole Air Mail operation across the United States is our ability to fly by night. Nobody except the Air Mail has ever operated airplanes on schedule over any substantial length of route at night. Coincidental with this night flying development, as a part of the transcontinental service, we have also opened up for future use and proven conclusively the practical nature of night operation, so that, as the service proceeds, I am ready to say to you without fear of failure, it is entirely feasible to operate aircraft at night between any two important cities where the distance is approximately 1000 mi. In other words, it is entirely possible to bring mail over here from New York, or to take it there, while the banker sleeps. This we can and will do if you want it done.

Because I am a Chicago man I may be pardoned for recalling that Chicago is the transportation center of the United States. It became so partly through its fortunate geographical location, but more so because of the vigor, initiative and persistence of the business leaders of the city. Can you visualize the next step? With a compass draw a circle around Chicago, 1000 mi. from center to circumference. See what it encloses: two-thirds of the United States and the richest agricultural and manufacturing areas in the United States and Canada.

Services of the nature of the Air Mail are not developed by accident, and their expansion does not come about except as the result of an active appeal from the business men of the country. The Post Office Department is ready to do its part in the matter of more extended use of airplanes in Mail Service whenever and wherever sufficient demand is created. This demand will only come if the service which we have started has a real place in the economic picture of this country. I believe that it has. You gentlemen, however, are much better judges of that than am I. All that is my privilege is to tell you what we can do. It will be for you to say whether the Air Mail is a service which you want to continue and expand.

*Address delivered by Col. Paul Henderson, Second Assistant Postmaster General in Charge of Railroad, Steamship and Air Transportation of the United States Post Office Department, at Luncheon of Illinois Bankers Association, Union League Club, Chicago, Thursday, July 10, 1924.

Trial Flights of ZR3

Trial flights of the dirigible ZR3, which is being built at Friedrichshafen, Germany, for the American government, will begin on Aug. 25, according to present plans of the Zeppelin company as reported in an Associated Press despatch from Friedrichshafen.

Installation will be undertaken within the course of the next few days of the new Maybach engines which, it is announced, have satisfactorily responded in exhaustive endurance test runs. After the engines are in place the airship will be inflated.

FINANCIAL CHART OF CHICAGO FEDERAL RESERVE BANK

Prepared for Aeronautical Chamber of Commerce of America by Industrial Bureau, Chicago Association of Commerce

Col 1	Col. 2	Col. 3	Col. 4	Col. 5	Col. 6
Cities with which most of Chicago's business is conducted	Distance from Chicago	Approx. average DAILY credittings from Chicago Federal Reserve Bank except cities now reached in one day by rail	Time schedule showing number of days before proceeds of items will become available By Railroad	By Airplane (estimated)	Average daily amount in process of collection	Amount saved through Aircraft Service	Annual Amount of interest saved on Col 5 Float Reduction of 5%
Boston	1,011 mi.	$ 800,000	2 days	1 day	$ 1,200,000	$ 400,000	$ 20,000
New York	808 "	3,230,000	2 "	1 "	8,469,360	5,239,000	261,500
Buffalo	515 "	117,000	2 "	1 "	234,000	117,000	5,850
Philadelphia	817 "	815,000	2 "	1 "	1,830,000	815,000	45,750
Cleveland	358 "		1 "	1 "			
Cincinnati	285 "		1 "	1 "			
Pittsburgh	468 "	482,000	2 "	1 "	964,000	482,000	24,100
Richmond	825 "	265,000	2 "	1 "	530,000	265,000	13,250
Baltimore	782 "	118,000	2 "	1 "	236,000	118,000	5,900
Atlanta	733 "	125,000	2 "	1 "	250,000	125,000	6,250
New Orleans	920 "	125,000	2 "	1 "	270,000	135,000	6,750
Birmingham	654 "	68,000	2 "	1 "	136,000	68,000	3,400
Nashville	445 "	95,000	2 "	1 "	190,000	95,000	4,750
Jacksonville	1,083 "	55,000	2 "	1 "	133,000	53,000	2,650
St. Louis	288 "		1 "	1 "			
Little Rock	835 "	55,000	2 "	1 "	133,000	55,000	2,250
Louisville	508 "		1 "	1 "			
Memphis	537 "	201,000	2 "	1 "	402,000	201,000	10,050
Minneapolis	431 "	1,035,000	2 "	1 "	2,064,000	1,032,000	51,600
Helena	1,541 "	2,000	2 "	2 "	6,000	2,000	100
Kansas City	454 "		1 "	1 "			
Denver	1,023 "	180,000	2 "	1 "	360,000	180,000	9,000
Omaha	488 "	342,000	2 "	1 "	684,000	342,000	17,100
Dallas	905 "	248,000	2 "	1 "	496,000	248,000	12,450
El Paso	1,400 "	16,000	3 "	2 "	48,000	16,000	800
Houston	1,200 "	126,000	3 "	2 "	378,000	126,000	6,300
San Francisco	2,281 "	250,000	4 "	2 "	820,000	480,000	23,000
Seattle	2,158 "	131,000	4 "	2 "	524,000	262,000	13,100
Spokane	1,847 "	38,000	4 "	2 "	158,000	78,000	3,900
Portland	2,068 "	87,000	4 "	2 "	348,000	174,000	8,700
Salt Lake City	1,515 "	85,000	3 "	2 "	185,000	65,000	3,250
Los Angeles	2,221 "	417,000	4 "	2 "	1,668,000	834,000	41,700
		$9,385,000			$25,940,000	$10,299,000	$504,450

First Helicopter to Fly a Circular Kilometer

Meets Test Imposed by French Air Service

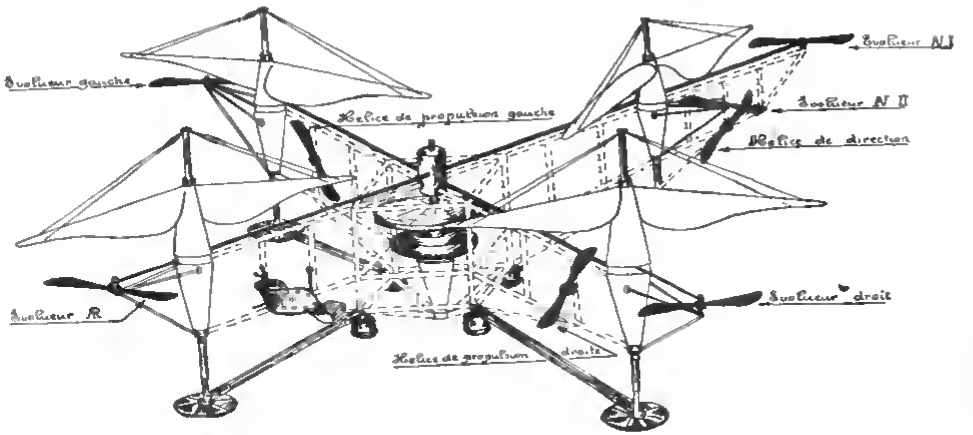
We are indebted to L'Aeronautique *for the following account by Etienne Oehmichen, pilot and inventor of the Oechmichen helicopter which was accepted by the French government after having completed a circular kilometer. The machine was described in detail in our issue of April 9, 1923.—Editor.*

The apparatus which has permitted me to make the first circular kilometer in a helicopter is the one with which I made the first fixed point flight of five minutes in May, 1923, and which has since been the subject of several modifications to adapt it to forward flight and to improve its stability in a wind.

The apparatus is actually very maneuverable. Turns are easily accomplished, but there is noticed sometimes, especially during the course of flights in bumpy weather, a certain sluggishness in turning, which indicates the necessity for even more powerful controls. This only applies for changes of direction of from 90 to 180 deg., the turns of 45 deg. are accomplished on the slightest movement of the controls.

I have therefore particularly studied the question of turns and since the month of October, I have made about forty circular flights of an average length of from 600 to 700 m. The precision of the landings has always been considerable.

During the course of the trial, the principal and practically the only difficulties came from the motor, whose excessive vibration produced accidents of all kinds. Besides, sudden stoppages due to bad cooling, forced me often during the course of a flight to suddenly lose height and to touch the ground with one or more of the landing skids, which disqualified me from counting the circuits made as a continuous flight.



Details of Oehmichen Helicopter which has been accepted by the French Air Service

It consists of four principal propellers, a system of five "controllers" or stabilizers which are propellers of variable and reversible pitch whose diameters are, respectively, 1 m. 45 for the three longitudinal controls, and 1 m. 55 for the two transverse controls. Two propulsion propellers with fixed pitch and a diameter of 1 m. 40 are driven by belts. These are placed on either side of the central cage and about half way out on the frames which support the lifting screws. They are, however, considerably below the lifting screws.

To the landing system has been added a double skid placed in front for the purpose of reducing the shocks of landing on the front part of the machine, as such shocks are increased by the full weight of the helicopter.

The apparatus weighs approximately 1000 kg. in running order. The main propellers turn at 145 r.p.m. and the load is approximately 33 kg. to the square meter.

I consider this apparatus simply as an experimental job, built to lend itself easily to alterations, especially insofar as the stabilizing and propulsion apparatus is concerned. It is more a flying laboratory than a practical aviation apparatus.

I have gathered, during the course of my methodic experimenting and nearly 450 flights, a series of invaluable data, especially with reference to cross winds, the influence of the ground and that of forward motion.

I was able during the course of the winter to make several important circuits, one of 1850 m. touching only once with the rear skid, but I had never succeeded in making the circular kilometer without stopping or touching.

On May 4, at 7 30 p. m., in the presence of Mr. Chollet, official delegate of the Service Technique de L'Aeronautique, I made a trial flight in a closed circuit. Though the atmosphere was calm a few gusts still lingered and gave a little motion. In spite of this I brought the apparatus back to the starting point of the prepared circuit, which was a triangular course of 1 km. marked out by stakes. The apparatus, oscillating between one and three meters, flew the first two sides of the triangle correctly but the third corner stake was widely passed by, as at that time the machine showed a certain sluggishness in turning. This brought me over a strip of deep ditches and small gullies, seeing which I gained altitude which allowed me to make my corner rapidly and get on the course again.

The last leg of the triangle was flown very rapidly at an elevation of one or two meters and with a slight turning to the left. The landing point, which was rather hard to see through the maze of tubes and wires, was pointed out to me by the men of my crew, one of whom, running along in front of the machine, showed me with outstretched arm the proper course. I soon passed him and a few seconds after I set the apparatus down a little less than 2 m. from the point of departure.

This apparatus has now terminated its career and fulfilled exactly the conditions imposed by the Service Technique de L'Aeronautique, to whom it is destined. I expect to use it to get a few figures which I still lack.

The apparatus which will follow will attack the problem of security, that is, a descent with the motor stopped, and will have the benefit of the previous experience.

National Air Policy Suggestions

Below are some of the suggestions received for a national air policy:

"I think the first step in a National Air Program is the establishment of an air "ministry" in our government. This department should be given absolute control of all things aeronautical, insofar as the government is concerned. Competent officials at the head of such a department would insure: A sane program of aircraft development; a civilian charged with the championing of a national air policy in the government who would, in turn, look out for civilian interests in legislative discussion, who should be charged with rendering complete and accurate expense data; appointment of competent air officers to head different air arms, one procurement agency for the government, intelligent development and experimentation, *the elimination of duplication;* more facilities and more money for Air Mail development; the establishment of a National Airway System; the efficient construction of, passage, and administration of air law; a greater realization of the necessity of international cooperation in air matters."

* * *

"The crying need of the hour seems to be landing fields. Government owned or at least tax free. Every city of ten thousand or more should have one. When away from his home fields the average civilian flier's life consists of being chased from one cow pasture to another. I have about quit flying for that one reason.

"There are other important needs such as quantity production of cheaper ships of interchangeable parts, sold unassembled and uncovered, to be built by purchaser. The saving thus effected in transportation charges and labor should easily amount to one half the total cost and the owner would know considerably more about his ship. But on the whole there is nothing needed like the landing fields, lots of them, free, except for hangar space. The rest will follow as a natural result and I know of no way of creating a more efficient, more permanent or cheaper civilian reserve upon which the nation can draw in time of war or that would be of more value in time of peace."

* * *

"What this country needs most is less differences of opinion and a shoulder to shoulder solidarity of flying interests. Until then, no air policy seems possible. If the N.A.A. would take the leadership in Washington and get everyone behind it, much could be accomplished. As it is there is nothing being done and aviation in this country is slowly dying. The points suggested are all good but until we have some organization to push them there is little hope."

* * *

"Why don't you include in the National Air Policy a strong statement that we should have an independent Air Force like Great Britain? This is what will eventually come so why not be among the farsighted pioneers and come out for it now.

"The Army and Navy are doing just as little for aviation as they dare. They think of it in terms of aids to their other work and not as a new armed force that can act independently and as a separate arm.

"Every country that is thinking of aerial defense and offense is coming more and more to the idea of centralizing its air forces. Let us have a civilian head by all means but let him be placed at the head of a separate department.

"The other points in your suggested National Air Policy would all be strengthened thereby."

American World Flight

On Aug. 5 Lieutenants Smith and Nelson, the remaining American fliers, resumed their flight reaching Reykjavik, Iceland, a distance of 310 mi. in 4 hr. 58 min. The weather was clear but they encountered strong head winds. The next stop of the aviators was supposed to be Anmagsahk, Greenland, but due to ice floes the Danish steamer Gertrude Rask has been unable to reach the harbor with the necessary stores of gasoline and oil. The waters off the Greenland coast are usually negotiable until September, but conditions this summer are the worst in twenty years and the Navy may have to withdraw their patrols. There seems to be no other harbor short of Ivigtut which is too far to be made in a single flight.

Further reports show that Lieutenant Wade's ship was so badly damaged that it had to be abandoned. However a new Douglas plane is being flown to Pictou, Nova Scotia, and Lieutenant Wade will fly across the United States with his two companions.

Capt. Charles Nungesser, the famous French Ace. A Radio interview by the publisher of AVIATION

End of British World Flight

Fog so thick that the fliers could not see the end of their wings proved the undoing of Major Maclaren and his companions, Flying Officer Plenderleith and Lieut.-Colonel Broome. After narrowly missing Seaforth Rock, which is an island on their course, the fliers decided to land. As a high sea was running the wing tip floats were damaged and it was only with the greatest difficulty that the aviators taxied to an island which was sighted when the fog lifted for a few moments.

Argentine World Flight

Maj. Pedro Zanni and his mechanic Felipe Beltrame reached Calcutta on Aug. 8. The machine being used by the Argentinian is somewhat similar to the Fokker C-4 which was described in our issue of March 24, 1924, except that it is fitted with the 450 hp. Napier Lion motor. The flight is backed by the Argentine Military authorities. A new plane fitted with pontoons will be used for the flight across the Pacific but when the flier reaches America he will again use a land machine. A special "mystery" ship will be used for the Atlantic flight.

Wants Japanese World Flight

As a gesture of protest against the American Exclusion act a Japanese octogenarian has given 100,000 yen ($50,000) to the Army Aviation Service, requesting that it be used in promoting a round-the-world flight by Japanese airmen, according to a Tokio despatch.

LIGHT PLANES AND GLIDERS

Edited by Edmund T. Allen

A Race of Flying Men

While France, England, and the United States are each claiming to be leading the world in aviation, each one is bending its efforts in a slightly different direction. France has without doubt by far the largest and most powerful air force in the whole world, England is supreme in the production of service machines to fill every demand, and the United States has perfected racing and record-breaking planes until we now hold two-thirds of the world's records.

Light plane honors have thus far gone to England, which has produced more serviceable small engined types than either France or Germany. The Tour de France des Avionettes to be held this month across the channel may make things look very differently. We are open to conviction on this matter. But at present all eyes are turned toward the coming British Competition for two seater light planes with more than usual interest. On its success depends the carrying out of plans which have as the ultimate goal a very great increase in the number of available airmen. This ambitious plan has the backing of the Duke of Sutherland, who made a tour of this country a short time ago, and of Lord Thompson. Definite details have been prepared by the Air Ministry, at whose direction the light plane competition is being held, and the whole scheme is now merely awaiting Treasury sanction.

The details are not as yet available to us but in general the scheme makes provision for the establishment and subsidy of numerous flying clubs throughout the country. The Air Ministry will approach municipalities and other civil bodies with the offer of cooperation in the formation of clubs for training pilots and keeping them in training on light airplanes. Each club is to be allowed to select its own type from those appearing at the coming two seater competition. The government will then place orders for three two seaters and two single seaters for each club, and will further furnish a grant for their maintenance.

Transferring the idea to this side of the Atlantic, we could imagine a flying club composed of some fifty members in almost every locality where one or two pilots could be found to start the ball rolling. Each club with its five or six club light planes, quickly added to by the personal acquisitions of its members who wished greater independance, could with a little help from the federal government maintain a local flying field with hangars and equipment. Thousands of young men who would make excellent pilots and whose greatest ambition is to learn to fly would be given the opportunity without interfering with their school work or business, and old pilots who have not had their hands on a stick for months or perhaps years, could get into the air as often as the spirit moved them.

At the close of the war there were 17,000 pilots trained or in training in this country. Today there are not any more than that number, the additions to the ranks have not more than made up those who have dropped out. Seventeen thousand pilots among 100,000,000 people, one out of every 6,000! There is not much chance of increasing this proportion very materially while airplanes cost $5,000 apiece and upkeep is such as to seriously embarrass a man of modest means. With light planes, however, the possibilities at once open up visions of many thousands of pilots trained every year, thousands of new airplanes constantly being built, with the corresponding increase in development and research work which, in the automotive industry has made the modern automobile in 20 years of improvement the fool-proof mechanism which it is today. Here is a way to the realization of the ideal to *make Americans a race of flying men*.

Straight ahead lies work, careful preparation, and wise direction of energy. Then pep—aviation enthusiasm, the steam that drives the engine.

We have no Air Ministry in this country, and no office to correspond. The Army Air Service or the Naval Bureau of Aeronautics have nothing to do with civil aviation except to order military or training airplanes from civilian manufacturers. These machines may be used only by enlisted or commissioned personnel of the Army and Navy or of the Reserve Corps. There are no funds to finance anderkings other than those of immediate war value. It is not inconceivable that Congress may some day see in a large civilian flying personnel a measure for defense of inestimable value. That is not, however, the reason for urging a program of civilian flying training. A race of flying men is a race of superior men. We believe this to be true.

Two other organizations, the Reserve Corps and the Militia, have been proposed to take charge of an elaborate and extensive program such as that outlined above. The Reserve Corps of Army, Navy, and Marines are so limited in the scope of their operations by lack of funds that they can call to active duty but one tenth of their numbers each year for two weeks active training. Theoretically, any reserve officer can fly at any time if he presents himself at a flying fields successfully passes a rigid physical examination, and can show that he is capable of handling a machine in the air. Actually it is extremely difficult for the majority of the former pilots who joined the reserves to get a hop. In most instances, after all the preliminaries are sucessfully overcome, it develops that there are no available machines for reserve pilots.

The militia is a state organization. Twelve state National Guard organizations now have Air Service units that are recognized by the Federal Government. This means that by authority of act of Congress the Army Air Service is allowed to issue *obsolete* equipment such as Jennies, tent hangars, etc. to them *provided* they can show that such obsolete equipment is no longer needed by the Air Service. At present the supply of obsolete equipment which is not at present needed by the Air Service is practically exhausted.

Larger Scope for N.A.A.

Finally we have the National Aeronautic Association, whose functions are stated in the by-laws of the organization to be "to foster, encourage and advance the sciences of aeronautics [illegible] and of aerial navigation of every kind... To kindle and keep alive a general interest in the art of flying and to lend its aid and encouragement to any person, body or institution which is engaged or interested in advancing this art [illegible]. To establish, maintain and conduct, and also to lend its support and financial aid to scientific societies, clubs, classes, schools [illegible] and other institutions engaged in [illegible] promoting the study or advancing the science of aviation [illegible]."

In the absence of a cabinet department for the air, the responsibility devolves upon this organization to carry out its program. That this is not to be done entirely by staging high speed races and securing foreign entries is beginning to be realized generally. Races of aerial torpedoes, it has been remarked before in these columns, are spectacular. They bring aviation into the headlines, and eventually, perhaps, operate to induce Congress to appropriate greater funds for the building of our aerial defense, but the sight of a human skyrocket hurtling around pylons at 260 mi./hr. does not bring aviation one whit nearer into the lives of the people. The man in the street will tell you that every time he sees a high speed air race he thanks his stars that he is going home by rail and not by air.

If all this energy were put in a constructive program such as is suggested above, ways and means of securing funds and arranging details would be found, and we might enter upon the era of *Americans—a race of flying men*.—E. T. A.

AIRPORTS AND AIRWAYS

Iola, Kans., News

By Paul Neff

B. T. Barber and Frank McCarthy, sponsors of the Iola field, have erected a sign, "Visiting Aviators Always Welcome—Sane Flying is Safe—No Stunting Over This Field."

• • •

Harry Crewdson's Standard was blown away last week in a high wind storm, breaking the prop and a wing spar. He has had it repaired and is in the air again.

• • •

Clarence Clark has accepted a position with the Standard Aircraft of St. Joseph, Mo.

• • •

Phil Wachtell left for Omaha, Neb., to take command of an L-5.

• • •

Harry King of Kings Flying Circus stopped over last week on his way north.

• • •

Frank McCarthy has his Ford-motored ship on the field now.

• • •

Ed Gunn washed out the JN4D that he bought from B. T. Barber.

• • •

Ed Butts, commercial flier, was instantly killed at Coffeyville when his motor died while flying at an altitude of 100 ft. along a high bluff. He got the ship on the ground but rolled over a 100 ft. cliff to his death. Butts was a lieutenant in the flying corps during the war.

Cleveland News

By Cy Caldwell

H. B. Shaver, Assistant Superintendent of the Eastern Division of the Air Mail, when interviewed on July 23, stated that of the emergency landing fields between Cleveland and Chicago that are being equipped for night-flying, those situated between Bryan and Chicago will be in operation this week, while those between Cleveland and Bryan will be ready in the near future. To commercial pilots and others using this route the following information may be helpful in case of forced landings.

There are 14 fields in all, including the permanent field at Bryan spaced approximately 25 mi. apart, and all on or very near to the most direct route between Cleveland and Chicago, which is a straight line from Cleveland to Huron, and a straight line from Huron to Chicago. None of the fields are more than 2 mi. north or south of this line, and may be located easily by the 53 ft. steel towers by day and by the beacons on them at night.

The fields average 1600 ft. long by 650 ft. wide with good clear surfaces. They are located at Ridgeville, Huron, Vickery, Woodville, Waterville, Gerald and Bryan, in Ohio, and at Ashley, Walcottville, Goshen, Lakeville, La Porte and McCool, in Indiana, and at Harvey, Illinois.

Commercial fliers who have been crying for landing fields with all the abandon of those children who, according to the advertisements cry for Castoria, may dry their tears while en route from Cleveland to Rock Springs, Wyo., where this admirable system of lighted fields will end.

Details of fields west of Chicago cannot be furnished by the writer, who has always been afraid of going west for fear of getting bitten by the California Bug, and thus landing splash an extra at Hollywood. Someone once told him that his face would screen well in comedies, and he's been nervous about it ever since.

The night lighting of these fields consists of a five million candle power G-E. electric beacon operated by a Delco plant. Pilots flying by these fields at night might bear in mind that the beacon is usually situated in the north east corner of the field, so that he may count on a good field southwest of any of the 14 beacons between here and Chicago.

The field is outlined by white boundary lights, varying in number according to size and shape of field, so that any pilot who fails to find a desired field lit up by a beacon and boundary lights might with reason be expected to spend a week in Washington without being able to pick out the Capitol.

Between the fields which are 25 mi. apart are acetylene lights placed at 3 mi. intervals along the line of flight, which flash on and off about once a second. These lights are situated in the centers of the best fields available, so that the night-flier in event of a forced landing between the emergency fields is assured of a clear field in the immediate vicinity of the lights. And in daylight these lights, mounted on a metal stand some 8 ft. in height, are easily visible and serve to indicate a field at least fairly safe for landing. The lights, by the way, are turned on and off automatically by the action of the sun's rays, so that they light up and flash on dull or foggy days. They require practically no care, as they may be filled to run 8 months at a stretch.

• • •

A weekly airplane inspection service is operated between Cleveland and Iowa City by Pilot Tex Marshall and Engineer I. D. Marshall, using one of the Curtiss Night-flying planes. "The Marshalls" are gaining fame as rapid-fire trouble-shooters, flying night and day to keep the lights functioning, reporting field conditions, and generally working to perfect the service. Their headquarters are at Maywood, Chicago, the center of their patrol.

• • •

Recent arrivals by plane at the Glenn L. Martin Field were Capt. B. E. Skeel and Lieutenant Moffett from Selfridge Field, Lieuts. James Doolittle and W. H. Brookley from McCook, and Lieut. W. H. Harris from Mitchel Field.

• • •

Famous last words: "I wouldn't be bothered carrying a parachute."

Selling the Big City

A permanent flying field which derives most of its support from carrying passengers must be located near a big city, as otherwise the number of people who desire to ride will soon become exhausted. There seems to be no way however of getting in touch with the population of a large city and as a result the small towns where the arrival of a plane is an event and quickly known have proved to be the best field for fliers. However one company which operated four passenger flying boats from a large city adopted the following scheme which proved very successful:

A ticket agent of the company found that nearly every large concern had some sort of an entertainment club or committee which arranged amusements for its employees. The chairman of this committee was offered a block of 24 tickets for $80.00 or at the rate of $3.75 for each passenger, with the understanding that the chairman should sell the tickets to the employees in groups of four and that preferably the whole party should fly on the same afternoon. The ticket agent only had to sell the chairman and the chairman sold the other passengers.

As every gypsy flier knows there is a good deal of mob psychology in getting passengers—if one comes forward, others follow. When a few out of an organization decide to fly the rest are easy, and the company who tried the scheme got over three hundred passengers out of one organization. The rate must necessarily be low but the volume of business and filling the plane on each trip more than makes up for this.

Annual Cooference of the F.A.I.

The annual meeting of the F.A.I. was opened in Paris on June 22. M Laurent Eynac, the French Secretary of Aeronautics, presided. Belgium was represented by Mr. Jacobs; England by Colonel O'Gorman; Holland by Mr Von den Berch; Spain by Ruiz Ferry and the United States by Mr Lahm. The delegates visited several airdromes, listened to a variety of speeches and attended a lunch.

Two requests from Belgium concerning the method of measuring the volume of balloons and the coordination of wireless information were accepted. The assembly also adopted a request of the United States to allow speed records over a long course to apply as records for any portion of the course longer than 3 km. The meeting turned down a proposition that speed records with refueling in flight should be allowed only over a distance greater than 2,000 km. Two requests on the part of France concerning spherical balloons and speed courses for flying boats were also adopted.

On the next day the conference decided to entrust the organization of a contest for automatic timing to the Aero Club of France, to admit the Aero Clubs of Lebanon and Syria, to create two new observatories in Holland and Sweden and to create a great gold medal which would yearly be given to the man who accomplished the best aeronautical performances of the year. In the afternoon the assembly adopted a request for a more accurate registration of records.

On the last day reports were read by the medical and legal commissions. The latter resulted in a request to the French government for the calling together of an international conference to study insurance with relation to aerial transportation.

The assembly closed by adopting certain requests of the Mapping Commission for the adoption of international maps.

The Great Lakes Airways, Inc.

The new flying service of the Great Lakes Airways, Inc., at Erie, Penna., has obtained an excellent start in passenger carrying and air photography. During its first four weeks of operation 216 passengers were carried and considerable photographic business was developed.

A flying boat service is operated by the company between Erie and Long Point, Canada, a popular fishing resort, the trip consuming a half hour compared to eight hours by boat and 20 hr. by train around the lake.

On July 12 an opportunity came to the new service to demonstrate the utility of the airplane in emergencies. A telephone call was received that a male passenger wished to fly from Long Point to Erie in order to reach the bedside of his son who was ill in Akron, Ohio. A Curtiss Seagull was immediately despatched across the lake, arriving at Long Point, Canada, at dusk. The return trip with the passenger was made in darkness and the Seagull arrived at Erie without incident at 10 15 p. m. As a result the passenger was able to reach his son in Akron 22 hr. earlier than by any other means of transportation. The early presence of the father had much to do with the boy's recovery, according to a later report from the passenger.

R. W. Griswold, President of the Great Lakes Airways, Inc., has given AVIATION an account of the flight of the company's first ship, a Curtiss Seagull, from Port Washington, Long Island, to Erie, Penna., which contains several items of interest to fliers.

With W. F. Sullivan at the controls and Griswold as passenger, the Seagull took off from Port Washington on June 21.

The route took the fliers up the Hudson River to Troy, N. Y., and from that point west over the Erie Canal to Oneida Lake. From that lake they continued via the canal west to Rochester where a landing was made on the Genesee River. This part of the flight was completed in a sixty mile gale. According to Mr. Griswold the Seagull was the first flying boat to land within the city of Rochester and the crowds which greeted them reminded the fliers of the old days in the flying game.

"A bit of a thrill" was experienced in getting out of the Genesee River "as its course is none too straight." The trip was completed on June 25 by a nonstop flight of 3 hr. 10 min. over the Erie Canal from Rochester, N. Y., to Erie, Penna. During the trip from Port Washington stops were made at several points on account of rain storms or darkness or for gas and oil.

The Erie Canal proved quite satisfactory to fly over at an altitude of at least 2,000 ft., with a plane of the Seagull type, but the fliers point out that no one should attempt the trip in a cross wind, as the canal is only 80 or 90 ft. wide in places.

Flour Co. Installs Sperry Beacon

The Washburn Crosby Co. recently purchased one of the 500,000,000 candle power searchlights known as the "Sperry Beacon," manufactured by the Sperry Gyroscope Co., New York. This light, the largest ever brought into the Northwest, has been erected on the top of the Gold Medal flour receiving elevator, 200 ft. above the ground. The beam, reaching into the sky, is visible for many miles around Minneapolis, and serves as a guide for both motorists and night fliers on their way to the city.

From motor boat to plane. Floyd Parsons doing his weekly thriller off Coronado Beach. Los Angeles. Frank Schultz is piloting the plane

The beacon, which has been described in AVIATION, is the same type recently placed at the stops along the route followed by the Air Mail Service fliers in their trip across the continent. With its carriage it weighs 3,000 lb. The lens is 3 ft. in diameter.

The light was purchased to advertise both Minneapolis and Gold Medal flour in this territory, but Washburn Crosby Co. feels that it may be utilized by the Government or others interested in night flying. With this in view, they have notified the Airways Division of the War Department that the services of the light will gladly be placed at the disposal of the Government any time they see fit to use it in this district.

George (Buck) Weaver, Aviator

George (Buck) Weaver, an aviator, died of heart disease on July 29 at his home in Lagrange, Ill. A flier since 1910, his friends estimated he had flown 1,000,000 mi. but he never had been in a serious accident. He left a widow and one son, George Weaver, Jr.

Air Violator Arrested

The first aviator arrested for violating New Orleans's new air traffic ordinance was taken into custody in that city recently. The ordinance prohibits stunt flying over the city at an altitude of less than 1,000 ft.

An airman attached to a flying circus did a few loops and other tricks over the business section of Canal street and when he landed a policemen was waiting for him.

UNITED STATES AIR FORCES

U. S. ARMY AIR SERVICE

Army Air Orders

Sec. Lt. Alexander George Greid, A.S., upon expiration of leave, from Vallejo, Cal., to A.S. Prim. Fly. Sch., Brooks Field.

Following officers, A.S. Off. Res. Corps, to active duty, Langley Field, reverting to inactive status June 30, 1925: First Lt. William Terrell Atkinson, Kansas City; First Lt. Lewis Love Bowen, Omaha; First Lt. Wayne Sanger Green, Brooklyn; First Lt. Glenn Penl Rodgers, Indianapolis; First Lt. William Sidney Wilson, jr., Dotham, Ala.; Sec. Lt. Henry Joseph Brady, New York; Sec. Lt. John Ayers Collins, Bristol, Va.; Sec. Lt. James Joseph Welker, Glenhead, N. Y.

Special Orders, July 25th, amended to direct Sec. Lt. Eugene Barber Ely, A.S., to proceed from Washington, to Brooks Field.

First Lt. Bernard S. Thompson, A.S., San Francisco, to temporary duty Com. Off., Crissy Field, upon expiration of which to sail on transport from San Francisco, Aug. 21, for N.Y.C.

Capt. William B. Wright, jr., A.S., Mass. Inst. of Tech., upon expiration of temporary duty and leave, to Kelly Field.

Capt. Ivan Snell, Inf. trans. to A.S. with rank, to remain in present duties.

Maj. John H. Jouett, A.S., Kelly Field, upon completion of training, to Washington for duty in Office Ch. A.S.

Spec. Orders May 12 amended to direct David S. Seaton, A.S. to proceed to Kelly Field.

Sec. Lt. Clement A. McCalley, A.S., Brooks Field, to Fort Sam Houston, reporting to Col. Herbert A. White, Judge Advo., Pres. Army Ret. Bd., for examination, upon completion to return to place of receipt of original order.

Capt. Edw. Bowman Lyon, A.S., promoted to Major, effective July 1.

Capt. William B. Mayer, A.S., McCook Field, to Mass. Inst. Tech., Boston, for two years instruction.

First Lt. Harold R. Wells, A.S., McCook Field, to Mass. Inst. Tech., Boston, for two years instruction.

Capt. Robert Edmonston Ellis, A.S., Off. Res. Corps, to active duty from McCook Field, to Washington, reporting to Ch. A. Serv., and reverting to inactive status Aug. 11.

Following officers to active duty at Washington, with Chief A.S., from points indicated, reverting to inactive status Aug. 15: Maj. David Breed Lindsay, St. Petersburg; Capt. John Kane Mills, Hackettstown, N. J.; Capt. Robert E. Lee Murphy, Lexington, Ky.

First Lt. James B. Carroll, A.S., Org. Res., Kansas City, to Registrar Harv. Graduate Sch. of Bus. Admin., Cambridge.

Army Entries for Dayton Races

The following tentative Army selections for the International Air Races are announced by the Chief of Air Service:

Liberty Engine Builders Trophy, Oct. 2, Entries, 10 DH's. Pilots, Lt. R. J. Brown, Jr., Boston, Mass., Lt. L. V. Bean, Jr., Bolling Field, Lt. C. W. Steinmetz, Bolling Field, Lt. E. B. Bohzien, Chanute Field, Lt. J. B. Haddon, Brooks Field, Lt. R. D. Knapp, Maxwell Field, Lt. C. A. Cover, Fairfield, Maj. C. L. Tinker, Ft. Riley, Lt. A. E. Simonin, Meandsville, Md., Lt. D. G. Duke, O.C.A.S., Lt. Rex K. Stoner (Alternate) Langley Field, Lt. L. A. Walthal (Alternate) Fort Bragg.

Dayton Chamber of Commerce Trophy. Oct. 3, entries, 6 Martin Bombers, 1 Curtiss NBS4. Pilots: Lt. H. D. Smith, Langley Field, Lt. G. C. Kenney, McCook Field, Lt. J. D. Barker Phillips Field, Staff Sgt. L. P. Hudson, Phillips Field, Lt. C. F. Woolsey, Brooks Field, Lt. Hez McClellan, Brooks Field, Lt. D. M. Meyers, Phillips Field, Lt. D. J. Canfield, (Alternate), Kelly Field.

John L. Mitchell Trophy. Oct. 4, Pursuit type planes of 1st Pursuit Group, nominations to be received from Selfridge Field.

Pulitzer Trophy. Oct. 4, entries, 1 Navy Curtiss Racer, 2 Army Curtiss Racers. Pilots: Lt. Alex Pearson, Jr., McCook Field, Capt. Burt E. Skeel, Selfridge Field, Lt. Wendell H. Brookley, McCook Field, Lt. H. H. Mills (Alternate), Fairfield.

No Delay for Entertainment

The Chief of Air Service has received a cablegram from Lieut. Lowell H. Smith, Commandant of the World Flight, in which he urgently requests that no entertainment for the members of the flight be arranged until after the Pacific Coast is reached and the journey around the world is entirely completed. This recommendation is made in order that the Flight across the United States may be made as rapidly as possible, to minimize the chances of failure on this last part of the route and prevent the personnel from relaxing their efforts before their task is done. On their way around the world, Lieutenant Smith and his companions have had to decline many offers of entertainment in the countries through which they have passed and have endeavored to avoid any unnecessary delay.

Sergeant Kelly Exceeds Lieut. McCormick's Record

The 91st Observation Squadron of Crissy Field, now temporarily stationed at Rockwell Field, Coronado, Calif., has a flier whose time in the air for twelve calendar months surpasses the record of 630 hr. 25 min. held by Lieut. H. T. McCormick of Brooks Field. The Commanding Officer of the 91st, Capt. Thomas J. Hanley, Jr., submits the following in this connection:

"One of our enlisted pilots, Staff Sergt. Fred Kelly, has flown 31 hr. 15 min. in excess of Lieutenant McCormick's time during twelve calendar months or for the Fiscal Year July 1, 1923 to June 30, 1924, computing his actual time piloting aircraft. Computing the man-hours Staff Sergeant Kelly has flown during this period he has spent 76 hr. 20 min. in government aircraft in excess of Lieutenant McCormick.

Summary of the flying time of Staff Sergt. Fred Kelly, 91st Obs. Sqn., for the Fiscal Year:

July 1, to Sept. 7, 1923,—91st Obs. Sqdo. Dec 26, 1923, to June 30, 1924—91st Obs. Sqdn.

Aircraft hours as pilot	441 05
Man hours as observer	45 05
Total	486 10

Sept. 19 to Dec. 19, 1923, D. S. Brooks Field

Aircraft hours as pilot	220 35
Total	706 45

U. S. NAVAL AVIATION

Naval Reserve Air Activities

The Aviation Division, Third Regiment, Ninth Naval Brigade, United States Naval Reserve Force located at Cleveland, Ohio, will finish its flight training activities for the training season by sending the last class of student naval aviators to the U. S. Naval Reserve Air Station, Great Lakes, Ill.

Ground school classes are being held every Thursday evening in Central Armory, Cleveland, Ohio, and the same course of study as given at the U. S. Naval Air Station, Pensacola, Fla., is being followed.

The Commandant of the Ninth Naval District has ordered the following officers and students of the Cleveland Aviation Division to report to the U. S. Naval Reserve Air Station,

Great Lakes, Ill., Aug. 15 for flight duty: Ens. Richard Raymond Palmer, U.S.N.R.F.-5, commanding officer of the division. Ens. Raymond G. Sherrick, U.S.N.R.F.-6.

Student Naval Aviators for preliminary flight training in Seaman 2 class, U.S.N.R.F.-6: Clifford J. Leisy, Samuel B. Homer, Everett L. Foote, Marvin F. Stevens, Edward E. Scott and Clyde W. Champness.

Naval Air Orders

Lt. Joseph W. Gregory, det. Off. Chg. Navy Recrtg. Sta., Minneapolis, to temp. duty under instr., Nav. A. Sta., Pensacola.

Lt. Spencer H. Warner, det. Bu. Aero., Nav. Dept., to Nav. A. Sta., Pensacola, inv. flying.

Lt. Joseph J. Clark, det. Nav. Acad., Annapolis, to temp. duty under instr., Nav. A. Sta., Pensacola.

Lt. Gordon Rowe, det. Bu. Eng., Navy Dept., to temp. duty, under instr., Nav. A. Sta., Pensacola.

Lt. (jg) John F. Crowe, det. U.S.S. Hopkins, to temp. duty under instr., Nav. A. Sta., Pensacola.

Lt. (jg) Maurice E. Curts, det. Nav. Training Sta., N.O.B., Hampton Roads, to temp. duty under instr., Nav. A. Sta., Pensacola.

Lt. (jg) Stanley J. Michael, det. U.S.S. Melvin, to temp. duty under instr., Nav. A. Sta., Pensacola.

Lt. (jg) John F. Reese, det. Nav. A. Fact., Nav. Yd., Phila., to temp. duty under instr., Nav. A. Sta., Pensacola.

Ens. Robert E. Blick, det. U.S.S. Bruce, to temp. duty under instr. Nav. A. Sta., Pensacola.

Ens. James V. Carney, det. U.S.S. La Vallette, to temp. duty under instr., Nav. A. Sta., Pensacola.

Ens. Charles W. Crawford, det. U.S.S. Mercy, to temp. duty under instr., Nav. A. Sta., Pensacola.

Ens. Melvilla E. Eaton, det. U.S.S. Cincinnati, to temp. duty under instr., Nav. A. Sta., Pensacola.

Ens. Francis B. Johnson, det. U.S.S. Litchfield, to temp. duty under instr., Nav. A. Sta., Pensacola.

Ens. Albert K. Morehouse, det. U.S.S. Maryland, to temp. duty under instr., Nav. A. Sta., Pensacola.

Ens. Joe E. Racker, det. U.S.S. Stoddert, to temp. duty under instr., Nav. A. Sta., Pensacola.

Ens. Henry L. Shemer, det. U.S.S. Sirius, to temp. duty under instr., Nav. A. Sta., Pensacola.

Ens. Ralph H. Wishard, det. U.S.S. Williamson, to temp. duty under instr., Nav. A. Sta., Pensacola.

A Suggested National Air Policy

That a National Aviation Policy is needed by the United States is obvious. To get such a policy in concrete form AVIATION *requested several thoughtful friends of aeronautical progress to make suggestive and constructive recommendations. Some of them are given below and will be printed each week with additions, omissions and such other changes as appear to be helpful toward the formulation of a sound national air policy. Readers of* AVIATION *and others can render no greater service to the cause of aeronautical progress than contributing their comments and suggestions.*

GOVERNMENTAL.

A continuing program of aircraft development both governmental and commercial.

A civilian, charged with championing a national air policy, is needed in the Government.

Aircraft committees in the House and Senate to hold aircraft hearings where civilians as well as government officials can express their opinions.

A detailed aircraft budget for all Governmental Departments, and an annual statement of all expenditures.

An experienced staff of flying officers at the head of all governmental air defense services.

Coordination of all procurement and experimental aircraft work of the government under one agency.

Limitation of government manufacture to repair of aircraft and specialized work that cannot be done by private firms.

The elimination of the duplication of aerial functions and facilities by government departments.

A country wide Air Mail system of trunk lines connecting the principal cities of the country.

Establishment of a National Airway System through cooperation of the Federal Government with States and Cities.

A national aircraft law that will regulate aviation, administered by practical pilots and experienced aeronautical engineers.

Membership of the United States in the International Convention for Air Navigation.

COMMERCIAL AIRCRAFT OPERATION.

Creation of commercial air lines by private enterprise or government subsidy.

Encouragement of participation by private companies in aircraft races and competitions.

Encouragement of the training of pilots by civilian schools.

Creating an Esprit de Corps among flying men all over the country by frequent gatherings at aviation meets.

INDUSTRIAL AIRCRAFT CONSTRUCTION.

Recognition that a sound aeronautical industry is a prime necessity of our National Defense.

An active industrial association that will coordinate the aircraft industry and defend it from attack.

Encouragement of the designing of new types of aircraft by manufacturers by allowing them to retain their proprietory rights.

Concentration of manufacturing firms on specialized types of army and navy aircraft.

Encouragement of research by constructors, universities and other agencies as well as by the government.

Encouragement of an annual design competition for commercial aircraft.

CIVILIAN.

A national aeronautical organization composed of public spirited citizens that will take a strong position of leadership on national aeronautical policy.

An Annual Aviation Week during which the country will think of aerial progress.

The formation of local aero clubs by fliers for the purpose of stimulating flying in all localities.

Encouraging the public to fly and patronize the air mail and transport facilities.

The Aircraft Service Directory

WHERE TO PROCURE EQUIPMENT AND SERVICES

Rate of Climb Indicator

PIONEER INSTRUMENT COMPANY

MAIN OFFICE AND FACTORY BROOKLYN NEW YORK

WASHINGTON 441 STAR BUILDING — PARIS 97 BOULEVARD SAINT MICHEL — San FRANCISCO 10 SPEAR STREET

OSTERGAARD AIRCRAFT WORKS

4269 N Narragansett Ave. Chicago, Ill.

Finest guaranteed Acetate of Nitrate Dope per gallon $2.50, Goggles $3 00 Spark Plugs 25c, Spar Varnish $5.00 per gallon, Hantsch-Outerguard Light motor, 36 lbs., 23/25 h p $750 00. Blue print of 75 m p h Aerodrive sled 50c. Sled complete $485.00

SPRUCE ALUMINUM STEEL PLYWOOD

Everything for any aircraft *State specific needs*

—PETREL MODEL FIVE—

—Super-Performance In the 3 Seater Class—
—Seaplane or Landplane to Suit Your desires—
—Air Cooled or Water Cooled Motors—

Details on Models Four & Five gladly furnished on request

HUFF DALAND AERO CORPORATION

OGDENSSUEG N Y

EDWARD P. WARNER

Consultant in Aeronautical Engineering
and
Commercial Operation of Aircraft.

Mass Institute of Technology
Cambridge, Mass

New SEAGULLS $2600 00, New K6 ORIOLES $2200 00, New JN4Ds $1000 00, STANDARD without motor $800 00 Used STANDARD K8 three-seater $1500 00 Used JN4Ds $400 00 and up, Used OX5 motors $50 00 and up New OX5 motors $175 00 Used K6 motors $280 00 and up, New K6 motors $1000 00

Before purchasing spare parts get our prices

G. S. IRELAND

CURTISS FLYING FIELD GARDEN CITY, N Y

Yackey Aircraft Co., 819 Desplaines Ave. Forest Park Ill

E V A Dual control Liberty 6 motor $1250 00 Used JN4 D $750 00 and up. Used Canuck $425 00 and up Rebuilt Canucks $760 00 and up. New Canuck $1150 00 300 Aeromarine Land or water $575 00 OX Standard New wings overhauled motor $1030 00 Lincoln Standard dive placed fair condition $1200 00 4 placed IIH6 less motor new covers $450 00 3 placed Avroe 110 Le Rhone new $850 00 3 placed Lalea OX5 good shape $1275 00 TM Scouts without motor S4C new $450 00 OX5 Yackey Sport 2 placed T M $1475 00 5 placed Sraguets Renault motor $4750 00 Parts for Avroes, T M s Breguets E V A s New Shock cord guaranteed—Resistal Goggles Write for new price list.

MATTHEW B. SELLERS

Consulting Aeronautical Engineer

Ardsley-on-Hudson, N. Y.

BELLANCA

6 Seater with 90 hp OX5
3 Seater with Hispano
2 Seater with motor cycle engine

COLUMBIA AIRCRAFT CORPORATION

FARMINGDALE, L. I., N. Y.

LUDINGTON EXHIBITION COMPANY

Sport Farman Ships
Aerial Taxi Service
Exhibition Flying

Office: 810 Atlantic Bldg PHILADELPHIA — Flying from field of C. S. Ireland PINE VALLEY, N. J.

NEW HS2L FLYING BOATS

in original crates

AND MF BOATS

$600.00

GULF COAST AIRLINE

515 Whitney-Central Bldg New Orleans, La.

PHENIX DOPES

NITRATE, ACETATE AND PIGMENTED

Also Special Dopes for Unusual Purposes
Low Prices and Quick Delivery

PHENIX AIRCRAFT PRODUCTS CO.

WILLIAMSVILLE, N Y.

PARAGON PROPELLERS

BETTER THAN EVER

American Propeller & Mf'g. Co.

Baltimore, Maryland

Army Surplus Airplanes and Supplies

Standard J1—OX5 OXX6 and Hispano 150 motored, $750. Curtiss JN4D—OX5 motored, new and used, $400. Avro and Thomas Morse Scouts, new and used
Motors, Hispano 150, Hispano 220, Curtiss OX5 and OXX6
Wings, single or sets—Standard Curtiss JN4, or Canuck
Special bargain tail units, Curtiss JN4 and Canuck rudder $3
Propellers, parts dope, linen tires, wheels tubes—immediate shipment. Resistal goggles $3 special price larger orders.
Price List on Request

Marvin A. Northrop, 300 Builders Exchange, Minneapolis, Minn

Who's Who in American Aeronautics

An Aeronautical reference book containing 800 biographies and valuable information not heretofore brought together

ONE DOLLAR PER COPY

GARDNER PUBLISHING COMPANY, Inc.

225 Fourth Ave. New York

AIRCRAFT SERVICE DIRECTORY

CONTINUED

OX5 STANDARDS — $575.00

READY FOR DELIVERY: ASSEMBLED & TEST-FLOWN
STANDARD J-1 WINGS, CURTISS & LAWRENCE ENGINES;
COMPLETE STOCK OX5 PARTS, RADIATORS & ACCESSORIES
— *WRITE FOR PRICE LISTS* —

TIPS & SMITH

P O Box 152 (1505 Washington Ave.) HOUSTON, TEXAS

Airplanes, Flying Boats, Motors and Supplies. Parts for JN4D Canuck J 1 Standard OX5 OXX6 Hispano and Liberty. Fireworks—Spectacular Night Flame Display $4 6 , Flash Bombs, good for day or night $4 Flag Bombs $8 75, huge Smoke Trail $5 50 Nonshatterable Goggles—NAK Wide-vision $4 85 or Jumbo $3 50 New 24 Cord Canvas $4. Slightly Used Canvas $3, Moderately Used New Tubes $2, Altimeter $5 JN4D or J 1 Gas Tank Gauge 5 Rotary Map Case—Rotate as Trip Progresses $3.50 JN4D Gas Tank with Gauge $15 Special —150 H.P Hispano Motored 3 place Standard fair shape, $1050
726 West Superior FLOYD J. LOGAN Cleveland, Ohio

WRIGHT E-3 ENGINES

180-240 H. P

SPECIAL OFFER

Due to an overrun of parts for E-3 engines we can make a very attractive special price on this model of the Wright Hisso. This E3 motor ran 250 hours *full throttle* at 1800 r.p.m., pulling over 200 H P for practically the entire test, during which the valves were ground only once at 155 hours. The test was continued for over 5 hours *full throttle* with same bearings, crank, gears, rods and pistons All remained perfect. Helmet bearings and Thompson aluminum alloy valves are supplied on these E 3 s, the same as on our latest models We can equip these engines, without extra charge with high compression pistons for racing and we will guarantee 240 H P but it can be expected that the engines will pull considerably above this guarantee These are new engines and will be given the regular Government test schedule on our dynamometers before shipment.

WRIGHT AERONAUTICAL CORPORATION

PATERSON, N. J. U. S. A.

CLASSIFIED ADVERTISING

10 Cents a word, minimum charge $2.50, payable in advance. Address replies to box numbers, care AVIATION, 226 Fourth Ave., New York.

FOR SALE Two Gnome 50 hp Motors, one new and complete, other used but very serviceable Price for the two, sixty dollars Box 301, AVIATION

A bargain Jenne in A-1 condition with OXX6 engine and spare OX5 Robt. Lee, 10 Warren Street, New York.

FOR SALE Jenne good condition OX5 Engine, 50 hours. $600 00 Ludington Exhibition Co., Inc., 810 Atlantic Building, Philadelphia, Pa.

OX5 Curtiss Motors (used) minus carburetors and magnetos $50 00 f o b Los Angeles, 25% with order, balance sight draft against B/L (crating extra). Address Box 1152, Arcade Station, Los Angeles, Cal.

WANTED—One or more 6 cylinder, 60 hp Anzani engines, must be in excellent condition. McCarthy Aeronautical Engineering Co., 410 Umatilla Street, S E, Grand Rapids, Mich

COMMERCIAL AIRPLANES
THAT ARE PAYING PROPOSITIONS

Three and five place machines
Hiso motors and parts. Standard parts and equipment

Write for catalog

LINCOLN STANDARD AIRCRAFT CORP.

LINCOLN, NEBR.

LIBERTY "12" AVIATION ENGINE PARTS

ASSEMBLIES SPECIAL EQUIPMENT AND TOOLS ARE CARRIED IN OUR STOCK ROOMS FOR IMMEDIATE DELIVERY

JOHNSON MOTOR PRODUCTS INC.

518-532 WEST 57TH STREET NEW YORK, N. Y., U. S. A.

FOREIGN AIRPLANE ENGINES

LOW PRICES

100 Benz	220-260	H.P	$450
25 Beardmore	160	H.P	400
100 Mercedes	260	H.P	800
200 Fiat A 12	250	H.P	850
150 Fiat A 12 bis	300	H.P	600

Complete stock of parts for these motors

DETROIT MARINE-AERO ENGINE CO

400 Connecticut Ave Detroit, Michigan

JULY 1909 — 15 YEARS AGO

Bleriot made first flight across the English Channel
During this pioneer period Hamilton carved propellers by hand
Today—the Channel is crossed frequently daily
Today—Hamilton Propellers are manufactured in quantities in the most complete and only exclusive propeller plant in America

Get our new low prices now

Hamilton Aero Mfg. Co., Milwaukee, Wis.

FOR SALE—Two Loening Air Yachts (400 hp Liberty Motors)—one of these machines has flown 120 hours price complete with electric starter Four Thousand Dollars ($4000 00)

The other Air Yacht has only had about 30 hours of flying and is in practically brand new condition price Seven Thousand Dollars ($7000 00)

These machines are at present disassembled at Hangar but on deposit of One Thousand Dollars ($1000 00) will be assembled and made ready to fly with all launching facilities, etc available

Address all inquiries to—New York Newport Air Service, Inc., 31st Street and Fall River New York City

FOR SALE Jenne minus wings $300 00 or trade for Marmon or Cadalac Roadster O K Blake, Morgantown, West Va

Reliable pilot wishes to fly ship on commission or salary basis. F Sammelson, General Delivery, Ohio, Iowa.

FOR SALE Liberty aircraft engines, 400 hp, required spare parts same engines. Agents wanted Aug. Michel Arsenal, Strasbourg, France

FOR SALE Cheap, Liberty six super compression motor, perfect condition R. H. Richart, 602 N Court St., Sullivan, Ind.

SALE OR TRADE New five passenger Standard Hispano Motor, a money maker Trade on good Jennie. H H Emrich, 6 Dale Apartments, Neal & Main, Dayton, Ohio

Will Sacrifice brand new three to four place Aeromarine "60" cabin flying boat. Natural wood finish and in perfect condition Built within last 18 months. Equipped with 180 h/p Hisso Robert Lee, 10 Warren Street, New York

INDEX TO ADVERTISERS


THROUGH the entire history of aviation over a period of 20 years the Wright organization has maintained its high position.
Its leadership has been soundly built upon extensive research and intelligent engineering development, although its experience includes the manufacture of aeronautical equipment in extremely large quantities.
The Wright organization, ever mindful of its first achievement—the art of flying—continues to contribute each year its best ability and engineering experience to the advancement of flying.
WRIGHT AERONAUTICAL CORPORATION
PATERSON, N. J., U.S.A.
WRIGHT AIRCRAFT
"The Identification of Incomparable Service"
Navy ships equipped with Wright Air Cooled Engines flying in formation over San Diego, California